

GREEN WARRIORS: ARMY ENVIRONMENTAL CONSIDERATIONS FOR CONTINGENCY OPERATIONS FROM PLANNING THROUGH POST-CONFLICT¹

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“We are in the desert. What does it matter?”³ We are just passing through and don’t have the time.”⁴ “The locals don’t care, so why should we?”⁵ We are “replenishing the oil wells.”⁶ These phrases, uttered by U.S. Soldiers in Iraq referring to dumping both solid and hazardous waste without following appropriate disposal procedures, demonstrate that the Army has not fully embraced an environmental ethic in its contingency operations. In 1992, the Army committed itself to a twenty-first century strategy regarding the environment—to instill an environmental ethic across the Army’s operational spectrum.⁷ According to the RAND study in *Green Warriors*, sixteen years later the Army still has not effectively infused environmental considerations into the planning and execution of contingency operations.⁸

A summary of the analysis within the RAND study would look eerily similar to the 1970 Earth Day poster with the quote “[w]e have met the enemy and it is us.”⁹ A reference to the enemy not only refers to both the adverse effects of military operations upon the environment and the ineffectiveness of the armed forces to promote environmentally beneficial projects, but it also refers to the Army as individuals because of the willingness to “reinvent the wheel” and a failure to apply the lessons learned from past operations. Unfortunately, the Army continues marching toward the philosophic axiom of “[t]hose who cannot remember the past are condemned to repeat it”¹⁰ with respect to environmental issues during deployments.¹¹

While *Green Warriors* covers environmental considerations from planning through post-conflict, one primary purpose for the timing of this article is that a failure to address environmental matters now during this period within Iraq and Afghanistan will result in an even longer term presence necessitated by both the environmental remediation projects as well as the slow building support of the local populace when they suffer from poor environmental stewardship on the part of the foreign military presence within those nations. The other primary approach of this article focuses on informing and invigorating Judge Advocates (JA) as they develop a key role in environmental contingency planning, execution, risk alleviation, and issue resolution during every phase of the operation. Judge Advocates and Army leaders can easily glean the primary lesson from *Green Warriors*—to achieve mission success, the Army must address both the environmental effects of military operations as well as improve the existing poor environmental quality and infrastructure of the developing nations in which we conduct operations. Beyond the useful operational analysis of *Green Warriors*, JAs, particularly those comprising the operational law section, brigade legal counsel, claims attorneys, and contract specialists, should use this book to develop

¹ DAVID E. MOSHER ET AL., *GREEN WARRIORS: ARMY ENVIRONMENTAL CONSIDERATIONS FOR CONTINGENCY OPERATIONS FROM PLANNING THROUGH POST-CONFLICT* (2008). The Army Environmental Policy Institute requested the RAND Corporation to examine environmental issues during Army operations, resulting in this publication by the RAND Arroyo Center. *Id.*

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³ MOSHER ET AL., *supra* note 1, at 103.

⁴ *Id.*

⁵ *Id.*

⁶ *Id.* at 202 (referencing U.S. Soldiers dumping petroleum, oil, and lubricants (POL) in an uncontrolled and environmentally unsafe manner).

⁷ U.S. DEP’T OF ARMY, *UNITED STATES ARMY ENVIRONMENTAL STRATEGY INTO THE 21ST CENTURY* (1992). The Army has since issued another strategy for the environment, “Sustain the Mission – Secure the Future” on 1 October 2004.

⁸ MOSHER ET AL., *supra* note 1, at 121. The study states:

Although environmental considerations are integral to the Army’s ability to meet national objectives and desired end states in contingency operations, they are often underrepresented in the competition for attention, investments, and manpower. Balancing environmental considerations with other factors that contribute to mission success is a constant undertaking and requires better awareness, training, information, doctrine, and guidelines.

Id.

⁹ MRS. WALT KELLY, *THE BEST OF POGO* 224 (Selby Kelly & Bill Crouch Jr. eds., 1982) (containing Walt Kelly’s comic strip “Pogo”).

¹⁰ 1 GEORGE SANTAYANA, *THE LIFE OF REASON: REASON IN COMMON SENSE* 284 (Scribner’s ed. 1905–1906).

¹¹ See MOSHER ET AL., *supra* note 1, at 113 (expressing Army staff and engineers dismay that the Army continues to experience the same environmental mistakes in Iraq and Afghanistan that it had in the Balkans).

their legal acumen prior to deployment. In fact, the study calls upon JAs as contributors to environmental considerations specifically in issue spotting, training, and contract formation and review.¹² The bottom line remains that environmental law is part of the core discipline of JA legal practice.¹³

Owners of keen insight into the legal basis for action coupled with application and problem-solving skills, commanders utilize JAs as the trusted advisors to provide the full spectrum of options and outcomes of a mission along with its likelihood of success. This is essentially the skill and value of a lawyer. Yet, imperative in the approach of sage advisor during a contingency operation exists an all-too-often overlooked mission analysis of environmental considerations. Judge Advocates possess unique access to influence and inject environmental considerations into contingency operations, from development and review of an operations plan or order, to direct participation as a member of the special staff, Fires and Effects Coordination Cell, Information Operations Working Group, Targeting Cell, contract reviewers, claims processors, and the invaluable reputation as the commander's honest broker.¹⁴ *Green Warriors* highlights the challenge to JAs to eliminate the apathetic approach of commanders and Soldiers toward the environment during deployments, and to cultivate the environmental ethic demanded by the Army's own enumerated strategy.¹⁵

Neither the RAND study nor this short discussion intends to remold JAs as engineers, civil affairs officers,¹⁶ or environmental program specialists. However, our core value to the Army and its mission to wage the nation's wars and protect its interests abroad requires us to bear a more prominent role in resolving the mission impairing results of environmental contamination and destruction that continually arise despite the Army's own experiences. Emphasizing that environmental challenges and JA responsibilities did not originate in Afghanistan and Iraq, more than a decade ago then-Major Richard M. Whitaker wrote in this very publication that JAs bring a unique skill set with five imperatives to a contingency operation with respect to environmental considerations: determine the applicable sources of law; master those sources of law; provide counsel to commanders instilling an understanding of that law; execute the commander's decision, and maintain awareness of the environmental issues throughout the operation.¹⁷ These five imperatives for a JA form an inextricable link to the findings, recommendations, and insights of the RAND study in *Green Warriors*.

Completely void of any "shock and awe," the RAND study's seven major findings are: environmental issues can have a significant impact on operations; environmental considerations can be important for post-conflict success; contingency environmental operations differ from domestic issues; environmental effects have far-reaching impacts across operations, Army organizations, and the world; inadequate attention equals increases to cost, health risks, liabilities, and diplomatic relations; the Army needs to improve its understanding and incorporation of environmental considerations into plans and operations, and the Army has no comprehensive approach to environmental considerations, particularly post-conflict.¹⁸ Six recommendations follow the seven principles: improve policy and guidance; encourage an environmental ethic; incorporate

¹² *Id.* at 137–40.

¹³ U.S. DEP'T OF ARMY, FIELD MANUAL 27-100, LEGAL SUPPORT TO OPERATIONS viii (1 Mar. 2000) (containing the extensive list of JA responsibilities in chapter 3).

¹⁴ *See id.*

¹⁵ *See* U.S. DEP'T OF ARMY, SUSTAIN THE MISSION. SECURE THE FUTURE. THE ARMY STRATEGY FOR THE ENVIRONMENT (2004).

¹⁶ Civil affairs operations form a link between the commander's objectives and civilian populace, and according to the RAND study, environmental considerations will form a critical piece of the commander-civilian populace interaction. The civil affairs mission is defined as:

Civil-military operations involve the interaction of military forces with the civilian populace to facilitate military operations and consolidate operational objectives. A supportive civilian population can provide resources and information that facilitate friendly operations. It can also provide a positive climate for the military and diplomatic activity a nation pursues to achieve foreign policy objectives. A hostile civilian population threatens the immediate operations of deployed friendly forces and can often undermine public support at home for the policy objectives of the United States and its allies. When executed properly, civil-military operations can reduce friction between the civilian population and the military force.

U.S. DEP'T OF ARMY, FIELD MANUAL 3-05.40 (FM 41-10), CIVIL AFFAIRS OPERATIONS 1-1 (Sept. 2006).

¹⁷ Major Richard M. Whitaker, *Environmental Aspects of Overseas Operations: An Update*, ARMY LAW., July 1997, at 17, 17–18. "The critical job for deployed judge advocates is determining which international laws, domestic statutes, Department of Defense directives, service regulations, and host nation laws and policies and which do not." Major Karen V. Fair, *Environmental Compliance in Contingency Operations: In Search of a Standard?*, 157 MIL. L. REV. 112, 116 (1998). "[There is a] discretionary environmental stewardship program where the level of environmental planning and execution is often driven by the military mission and the accompanying public affairs threat level." *Id.* at 142. Some of this still holds true today, but added to the public affairs threat level are the counterinsurgency planning considerations.

¹⁸ MOSHER ET AL., *supra* note 1, at xvii.

environmental considerations into planning; improve pre-deployment training; invest in resources and good field operations, and follow a “sustainability” model for operations.¹⁹ The final summarized piece of the RAND study results in nine insights from its analysis: environmental considerations have a broad range of far-reaching impacts; the Army is involved in many diverse reconstruction activities with environmental components; insufficient resources are available to fully address environmental issues; contractors must be carefully selected and managed; collaboration with stakeholders is beneficial and critical; proactive environmental practices and lessons in some parts of the Army are not being transferred to other parts; country-specific conditions and needs should be considered; short-and long-term considerations need to be balanced, and environmental problems may contribute to problems of insurgency.²⁰ Utilizing a synthesis of the study’s findings, recommendations, and insights, a review of some of the common environmental challenges in a contingency operation will show that a JA has the ability to directly impact the planning, application, and potential resolution of environmental issues in many of these areas.

Although the health of the fighting force is a priority environmental consideration from the beginning and throughout any contingency operation,²¹ neither *Green Warriors* nor this review posit that the environment stands perched atop of the mission priority ladder, particularly in light of force protection, security,²² kinetic missions, and overall strategic objectives. Legal analysis rooted in both international law and domestic policies may support this prioritization.²³ Nevertheless, environmental considerations have a place in all of these mission analyses, and should climb significantly higher on the ladder as the operation matures toward the post-conflict phase.²⁴ The precept for the rising priority extends beyond the standard eco interests of social good and the welfare of the planet—those should be embedded in our inherent morality and global duties—more so for the Army, environmental considerations are coded within our operational imperatives to protect the health of Soldiers, enhance mission accomplishment, and promote national policy objectives through improvement, or at least maintenance, of environmental quality within the host nation.²⁵ Significant environmental standards, safeguards, and initiatives permeate the post-conflict stability reconstruction and nation building phases, and part of winning hearts and minds of a host nation populace certainly involves environmental quality.²⁶

Critical information necessary to capture hearts and minds, the RAND study polled Iraqi citizens regarding their environmental concerns. Rebuilding the nation’s infrastructure took second only to security.²⁷ Within the category of infrastructure, provision of electricity, safe drinking water, and disposal of sewage and waste formed the three major pillars of Iraqi priorities.²⁸ Evidence of the importance of environmental considerations during post-conflict phases could not be

¹⁹ *Id.* at 131.

²⁰ *Id.* at 95.

²¹ Environmental Health Site Assessments are conducted to determine whether contaminants exist on site of an area such as a base camp or within the resources used by Soldiers, but this only targets Soldiers’ health, and not the environmental quality of the host nation. *See id.* at 5, 73; JOINT CHIEFS OF STAFF, JOINT PUB. 3-0 III-29, JOINT OPERATIONS (3 Feb. 2008) [hereinafter JOINT PUB. 3-0]. Additionally, the DoD has an obligation to protect the occupational health of its employees. *See* U.S. DEP’T OF DEFENSE, INSTR. 6055.1, DOD SAFETY AND OCCUPATIONAL HEALTH (SOH) PROGRAM (19 Aug. 1998).

²² Storing hazardous waste at FOBs creates an environmental force protection/security risk. *See* MOSHER ET AL., *supra* note 1, at 200.

²³ *See generally* INT’L AND OPERATIONAL L. DEP’T, THE JUDGE ADVOCATE GENERAL’S SCHOOL, U.S. ARMY, JA 422, OPERATIONAL LAW HANDBOOK (2008) [hereinafter OPERATIONAL LAW HANDBOOK].

²⁴ *See generally* JOINT PUB. 3-0, *supra* note 21, at III-32-33, IV-15 (force protection).

²⁵ *See* MOSHER ET AL., *supra* note 1, at 5. Neither Iraq nor Afghanistan has the infrastructure or financial stability necessary to address the environmental quality programs of a modern, developed nation; therefore, the United States will be expected to provide the expertise, materials, and funding through its federal agencies and Armed Forces to bring these environmental quality programs to fruition. This translates into “diplomatic liabilities” as we think of issues such as human rights and global climate change. The Army becomes the guarantor of some fundamental human rights by participating in the establishment of environmental quality infrastructure and ethic. Additionally, potential sources of pollution and contamination that originate in states in which we operate garner attention of the international community because of the potential to affect international water sources and air quality involving things like greenhouse gas emissions. The quality of infrastructure and programs the Army helps install are subject to the scrutiny of other nations, thereby creating the “diplomatic liability.” *See id.* at 7, 23.

²⁶ *Id.* at 2; *see also* U.S. DEP’T OF ARMY, FIELD MANUAL 3-24, COUNTERINSURGENCY 5-20 (15 Dec. 2006). There is also an argument that environmental consciousness permeates members of the U.S. military as well: U.S. Soldiers in Albania believed dumping waste in a local river was a violation of U.S. policies and environmental ethics. MOSHER ET AL., *supra* note 1, at 96.

²⁷ MOSHER ET AL., *supra* note 1, at 174.

²⁸ *Id.* The RAND study also polled Iraqis specifically within the category of environmental concerns, and clean water is a priority, followed by sewage and wastewater treatment and disposal, and clean air. *Id.* at 63.

more clear and convincing.²⁹ Without the benefit of a poll of local residents either during the pre-conflict planning phase or the initial operations, JAs and Army leaders face the challenge of anticipating the environmental conditions they will eventually encounter in the post-conflict stage. Three factors generally contribute to degraded environmental conditions within a nation enveloped in armed conflict: a lack of host nation laws and regulations; natural resources pressures to include over population, deforestation, industry, resource extraction, and unsustainable agriculture, and war and political instability both at present and in the past.³⁰ Armed with solid assumptions, JAs can first influence environmental considerations in the development of operational plans.³¹

One of the Army's environmental objectives during post-conflict contingency operations is to return base camps to the host nation or appropriate authority in the same condition as when we first utilized them.³² Unfortunately, structural, infrastructure, and landscape changes make this difficult or impossible.³³ Compounding the obstacle of irreversible changes to the environmental condition of a base camp, the Army often fails to conduct an adequate, if any, environmental baseline survey (EBS) of the area before use to determine its environmental condition prior to occupation.³⁴ A lack of planning prior to envision the eventual return of the property to its owner amid the hectic conditions under which the Army may establish a base camp results from an absence of either a standard operating procedure or curriculum at an Army school on how to conduct an EBS.³⁵ This highlighted deficiency within *Green Warriors* underscores the recommendation for incorporation of environmental considerations in guidance and training during the planning phase in order to affect the post-conflict phase.³⁶ Judge Advocates should take a professional interest in EBS results in considering our potential for liabilities and claims, not only within the Army, but on behalf of the Government of the United States.

Liabilities may arise from host nation residents filing claims for damage to natural resources, water resources, contamination, and possibly the long-term health or medical effects of our use of a base camp or other property supporting noncombat activities.³⁷ The Foreign Claims Act opens the financial liability vault to compensate foreign citizens for personal injury, death, or property damage caused by the Army's noncombat operations.³⁸ For example, contamination from a fuel spill at a base camp's makeshift motorpool would be compensable for the landowner if it was not otherwise contained and remediated to a satisfactory condition. Another potential liability percolates when Soldiers are exposed to environmental hazards at the base camp or even during operations "outside the wire."³⁹ Open burn pit fumes, encamping in the vicinity of an industry that emits toxins, exposure to and handling of hazardous munitions and waste, and contaminated drinking and bathing water all threaten not only the current mission, but germinate long-term liability exposure considering medical treatment and the welfare of the fighting force.⁴⁰ One solution proposed by the RAND study is a change to funding for

²⁹ Appendix B is structured to identify the most important issues facing the Iraqi population and the results are security followed by infrastructure, which contains two elements of what may be considered environmental issues: electricity and clean water. *See id.* at 174, 189. Waste treatment and disposal along with air quality also made the list. *Id.* This appendix targets the "hearts and minds" aspect of counterinsurgency operations, and it is evident that the environment is a priority. *Id.* One example cited is a unit had removed several date palm trees to conduct an ambush, thereby upsetting the local populace because of the removal of a valued natural resource. It is possible that the unit could have developed an alternative to successfully conduct the ambush without removing the trees. *Id.* at 199.

³⁰ *Id.* at 59–60. Host nation laws are generally non-existent or degraded to the point of not being able to enforce the requirements. *Id.* at 4.

³¹ For example, Annex L of a standard operational plan. *See* JOINT CHIEFS OF STAFF, JOINT PUB. 3-34, JOINT ENGINEER OPERATIONS (12 Feb. 2007) [hereinafter JOINT PUB. 3-34]; *see also* MOSHER ET AL., *supra* note 1, at 68–69.

³² MOSHER ET AL., *supra* note 1, at 74.

³³ *Id.*

³⁴ *Id.* at 72. Joint Pub. 3-34 advises to conduct EBS whenever possible. JOINT PUB. 3-34, *supra* note 31. One operational experience that would have benefitted from a complete EBS exists in Afghanistan where U.S. troops occupied an airplane hangar built and used by the Soviet Union. After using space heaters, POL in the cracks and beams began to vaporize and the noxious fumes caused numerous respiratory illnesses. MOSHER ET AL., *supra* note 1, at 104.

³⁵ MOSHER ET AL., *supra* note 1, at 19, 72 (but some doctrinal guidance does exist).

³⁶ *Id.* at 131. There is a lack of emphasis in doctrine on training and leadership when it comes to environmental stewardship, and this results in a lack of success. *Id.* at 4.

³⁷ *Id.* at 8.

³⁸ Foreign Claims Act, 10 U.S.C. §§ 2734–2736 (2000).

³⁹ MOSHER ET AL., *supra* note 1, at 8.

⁴⁰ *Id.* A look at historical Soldier exposure would include Agent Orange during the Vietnam War and Gulf War illness contracted as a result of the first Gulf War in 1990-91. *Id.*; *see also* DINA RASOR, & ROBERT BAUMAN, BETRAYING OUR TROOPS: THE DESTRUCTIVE RESULTS OF PRIVATIZING WAR 145–56

temporary and enduring base camps.⁴¹ Enduring base camps receive more funding and can incorporate better environmental infrastructure and management practices; however, temporary bases are the first to close and return to the property owner.⁴² Clean up of the temporary sites will take a greater priority due to the immediacy factor, and if these sites endure greater environmental degradation, potential liabilities and costs will increase. Providing fiscal advice to commanders, influencing the operational priorities of expenditures, and forecasting liabilities signify a crucial avenue of JA involvement in limiting the Army's environmental liabilities.

Outside base camps, additional liabilities manifest themselves through both Soldier and contractor negligence along with straightforward criminal conduct. The RAND study documented Soldiers dumping hazardous waste and failing to contain or clean up releases of pollutants.⁴³ The RAND study collected evidence of contractors dumping hazardous waste on the side of the road and selling the empty drums on the open market, extending potential liability beyond the Army's own actions.⁴⁴ Contractor environmental degradation equals clean up costs borne by the Army coupled with the likelihood of paying another contractor to do it.⁴⁵ Dating back to the conflict in Bosnia, the Army did not have a good handle on contractor operations with respect to environmental quality.⁴⁶ The Balkans experiences underscore the finding of the RAND study that the Army failed to incorporate its lessons learned into its operations in Iraq and Afghanistan regarding contractor oversight.⁴⁷ The RAND study states quite clearly that "research indicates that environmental considerations are not being addressed sufficiently at any step in the contracting process."⁴⁸ Herein lies another area for JAs, as contract reviewers, to ensure that both the contents of the contract delineate appropriate environmental considerations as well as adequate oversight and management procedures to ensure that the Army does not undertake or become exposed to unnecessary additional liabilities.⁴⁹

Another foundational cause for the lack of environmental consideration during operations is that civilian employees occupy the vast majority of installation environmental management positions.⁵⁰ Civilian employees generally do not participate in contingency operation planning,⁵¹ and correspondingly the civilian employees do not participate in the operation itself. Therefore, the Army must make up for this lack of input, leading to the U.S. military reliance on contractors for environmental operations.⁵² Potential liabilities abound in this practice due to security risks, lack of input, inadequate control, unreliability, deficient oversight, and cost.⁵³ The Army's inability to utilize or rely upon on an installation support

(2007). The authors highlight that a contractor in Iraq failed to chlorinate the water used by Marines at a base camp thereby exposing them to a serious risk of illness. *Id.*

⁴¹ MOSHER ET AL., *supra* note 1, at 117.

⁴² *Id.*

⁴³ *Id.* at 74, 193 (stating that U.S. troops purged tankers to save travel time, letting them drip during travel by removing the plug).

⁴⁴ *Id.* at 7–8, 193, 202.

⁴⁵ Additional resources may also be required to recoup the costs from the offending contractor, if that contractor could be located or collected from, both precursors being difficult within states engaged in a conflict within its borders.

⁴⁶ U.S. GEN. ACCOUNTING OFFICE, CONTINGENCY OPERATIONS: OPPORTUNITIES TO IMPROVE THE LOGISTICS CIVIL AUGMENTATION PROGRAM, REP. NO. GAO/NSIAD-97-63 (1997).

⁴⁷ MOSHER ET AL., *supra* note 1, at 95. Some of the lack of incorporating past lessons learned is the result of minimal funding and focus on research and development, in addition to a failure to review our history. *Id.* at 13.

⁴⁸ *Id.* at 107 (the reasons are: issues are not spelled out in the contract (need a better Statement of Work); there is a lack of oversight, and reuse/recycling is rarely implemented). Applying personal experience, JAs who have deployed can think about single use water bottles and the recycling of those items. If the Army implemented an effective recycling program or changed the logistical supply system to a multiple use water bottle, what would the waste reduction be?

⁴⁹ See Fair, *supra* note 17, at 158–59 (“[T]he legal advisor must have sufficient training and experience to assess environmental contract performance and associated costs . . .”).

⁵⁰ MOSHER ET AL., *supra* note 1, at 66.

⁵¹ Reasons for rejecting civilian participation include security classification, job description, and a lack of participation in the operation.

⁵² Environmental officer appointment is often an extra duty, or a junior officer or noncommissioned officer with a lack of formal training, or at least only a partial focus due to other mission requirements. MOSHER ET AL., *supra* note 1, at 104.

⁵³ See generally RASOR & BAUMAN, *supra* note 40 (examining the pitfalls of using contractors in a deployed environment).

structure in a deployed setting jeopardizes the environment.⁵⁴ This manifests itself as a judge advocate challenge because much of the Army Judge Advocate General's (JAG) Corps expertise in environmental law emanates from its civilian attorneys. Judge Advocates should adopt the practice of soliciting civilian counsel input regarding environmental considerations, and familiarizing themselves with environmental issues through consultation with this critically important resource. The JAG Corps may be well served by assigning some environmental counsel duties to JAs to develop the appropriate knowledge base to be applied during an operation.

While environmental degradation stories may sell for the popular media, positive and beneficial environmental examples exist throughout current operations. First, Army engineers are restoring the wetlands of the Mesopotamian Marshland in Iraq to improve water quality, species continuation, and promote sustainable irrigation practices.⁵⁵ The marshlands project promotes the RAND study's insights of incorporating stakeholders' interests and chipping away at the foundation of an insurgency. Environmentally beneficial projects alter the perception of a disgruntled population who are at risk of forming or supporting an insurgency. The marshlands project also reduces the risk of diplomatic liabilities because the geographic importance of the marshlands includes waterflow to neighboring states and wildlife diversity and migration.⁵⁶ Other environmentally supportive projects in Iraq and Afghanistan include: recycling wood from pallets and other items resulting in less waste and the potential of conducting sales since it is a valuable commodity in developing nations; recycling blackwater into greywater; converting waste to energy by incineration, and washrack water recycling.⁵⁷ All of these technologies exist, they are just not implemented across the Army because more research and development is required and there is a lack of presence in doctrine and training.⁵⁸

Returning to *Green Warriors* and JA practice, Appendix A appears dedicated to the counsel of a JA under the title of "Domestic and International Law in Army Contingency Operations."⁵⁹ Regrettably, the appendix accomplishes little more than restating the contents of Chapter 20, Environmental Law, of the *Operational Law Handbook*.⁶⁰ Two areas upon which the appendix does touch that JA should take note of are its curt explanations of potential Military Extraterritorial Jurisdiction Act (MEJA) application and jurisdiction of the International Criminal Court and the Rome Statute.⁶¹ These two criminal jurisdiction schemes generally do not associate well with Army environmental operations during a contingency; however, a JA must integrate these potential exposures into any complete legal analysis should serious environmental consequences result from Army activities.

Green Warriors' stated goal is to "assess whether existing policy, doctrine, and guidance adequately address environmental considerations in post-conflict military operations and, increasingly, in reconstruction,"⁶² and the bottom line finding is that it does not. The resulting recommendations and insights demonstrate that the ad hoc approach to environmental considerations exposes Army failures from start to finish.⁶³ Considering the signed pact between the United

⁵⁴ The Army needs to integrate environmental doctrine and training into field exercises. Training for field operations faces several challenges: there is a lack of appreciation for environmental stewardship while conducting field training exercises because the Army is focused on the military operation mission; field training is unrealistic because the National Training Center and Joint Readiness Training Center provide environmental support infrastructure such as waste collection and treatment as well as water so that units can focus on the battle missions rather than an environmental distraction (things that the unit will have to provide for themselves in a deployed setting); units do not face the pre-existing environmental challenges within the host nation such as a lack of infrastructure or potable water, and units don't take ownership of environmental issues—it's accomplish the task at hand and move on. MOSHER ET AL., *supra* note 1, at 76.

⁵⁵ *Id.* at 9, 88.

⁵⁶ *Id.* at 100.

⁵⁷ *Id.* at 113. The study reveals other positive examples: establishing water filtration systems for communities, a one-stop waste area for disposal, treatment and recycling making it easier for users; runway repair to alleviate dust contamination and mission disruption from brownouts, and oil well protection and repair thereby reducing both ground and air pollution. *Id.* at 193–214.

⁵⁸ *Id.* at 113–14.

⁵⁹ *Id.* app. A.

⁶⁰ OPERATIONAL LAW HANDBOOK, *supra* note 23.

⁶¹ MOSHER ET AL., *supra* note 1, at 151–52, 162. While the United States is not a party to the Rome Statute, this does not necessarily create an impenetrable bar to a foreign state or the court itself from attempting to assert its jurisdiction regarding the conduct of a U.S. Soldier.

⁶² *Id.* at 13.

⁶³ *Id.* at 25.

States and Iraq stating that all troops will be withdrawn by the end of 2011,⁶⁴ the Army's focus on the environmental conditions to support transition and withdrawal must come center stage.⁶⁵ Failure to address the military's impacts upon Iraq's resources and the citizens' concerns may jeopardize the security situation and withdrawal, invite international criticism, and expose the United States to exponential liabilities. Judge Advocates play a crucial role in formulating plans and responses to environmental challenges throughout an operation,⁶⁶ with emphasis on the post-conflict phase. The opportunity for the United States as a whole, and JAs in particular, to establish a foundation for environmental resource enhancement and sustainability within Iraq (and Afghanistan) is at hand. This soon-to-be-written success story only requires that the Army embrace an environmental ethic and implement an environmental consciousness throughout its spectrum of operations.

⁶⁴ Peter Graff, *Iraq, US Sign Pact on Troops Withdrawal Deadline*, REUTERS, Nov. 17, 2008, <http://www.reuters.com/article/vcCandidateFeed7/idUSLH492272>.

⁶⁵ The same may be true of Afghanistan, although no date certain for an end to operations has been established, and Afghanistan has a less developed infrastructure than Iraq.

⁶⁶ Additional challenges presented within the study that JA will encounter include the effects of the Basel Convention that will restrict the movement of hazardous waste (Afghanistan is a signatory, Kuwait has ratified, and Iraq and the United States are not parties to the Convention). MOSHER ET AL., *supra* note 1, at 22. A past, current, and future challenge is the effectiveness of cleaning equipment to the point of preventing invasive species from entering the United States or other countries pursuant to Executive Order 13112. *Id.* at 30, 33. Reversing the invasive species protection mechanisms, the Army should adopt a strategy to prevent Soldiers from introducing invasive species into the operational environment to prevent future liabilities (e.g., a Soldier plants seeds either sent through the mail or upon return from leave). *Id.* at 204.